

CLAIMS

1. An operating arm for a construction machine for use as a front part of a construction machine, said operating arm being constituted by a plural number of joined plates 5 and in the shape of a square tubular structure of a square shape in cross section, characterized in that:

10 said plural number of joined plates include flat thin plates to be formed into flat sections of said square tubular structure and thick corner plates being greater in thickness in a flat shape than said flat thin plates joined side to side with said flat thin plates beforehand and bent 15 into a convexly curved shape afterwards to form corner portions of said square tubular structure.

15 2. An operating arm for a construction machine as defined in claim 1, wherein said thick corner plates and said flat thin plates are joined together by side to side 20 butt welding to form a wide plate-like material having alternately thick and thin wall portions in a transverse direction, said wide plate-like material being bent along said thick corner plates to form a U-shaped structure in cross section for use as a part of said square tubular structure.

3. An operating arm for a construction machine as  
defined in claim 1, wherein said flat thin plates and said  
thick corner plates are joined by side to side butt welding  
such that surfaces of said flat thin plates are positioned  
5 flush with said thick corner plates on one side in the  
direction of thickness but indented from said thick corner  
plates on the other side in the direction of thickness.

4. An operating arm for a construction machine as  
10 defined in claim 1, wherein said flat thin plates and said  
thick corner plates are joined together by side to side butt  
welding such that surfaces of said flat thin plates are  
indented from said thick corner plates on one side in the  
direction of thickness but positioned flush with said thick  
15 corner plates on the other side in the direction of  
thickness.

5. An operating arm for a construction machine as  
defined in claim 1, wherein said flat thin plates and said  
thick corner plates are joined together by side to side butt  
20 welding such that surfaces of said flat thin plates are  
indented from said thick corner plates on both sides in the  
direction of thickness.

6. An operating arm for a construction machine as defined in claim 1, further comprising a boss mounting thick plate to be formed a boss mount member of said front part is joined with one longitudinal end of said flat thin plates and thick corner plates of said square tubular structure prior to a bending operation, said boss mounting thick plate being bent into U-shape simultaneously with said thick corner plates.

10 7. An operating arm for a construction machine as defined in claim 6, wherein said boss mounting thick plate is substantially of the same thickness as said thick corner plates.

15 8. A method of fabricating an operating arm for a construction machine for use as a front part of a construction machine, said operating arm being constituted by a plural number of joined plates and in the shape of a square tubular structure of a square shape in cross section, 20 characterized in that said method comprises:

a first welding stage for preparing a wide plate-like material having alternately thick and thin wall portions in a transverse direction by butt welding side to side said

plural number of joined plates in different thicknesses to form said square tubular structure;

5 a bending stage for bending said wide plate-like material along thick plate portions to form corner portions of said square tubular structure, and to form a U-shaped structure having a U-shape in cross section through plastic deformation;

10 a second welding stage for welding a separate plate-like member to said U-shaped structure to close an opening of the latter to form said square tubular structure of a square sahpe in cross section.

9. A method of fabricating an operating arm for a construction machine as defined in claim 8, wherein said 15 first welding stage further comprises welding a boss mounting thick plate to be formed a boss mount member of said front part to one longitudinal end of said wide plate-like material, and said bending stage comprises bending said boss mounting thick plate into U-shape in cross section simultaneously when said wide plate-like material is bent to 20 form said U-shaped structure.

10. A method of fabricating an operating arm for a

construction machine as defined in claim 8, wherein said thin and thick plates are joined by high energy density welding of deep penetration in said first welding stage.